

REMARKS

Applicant is supplementing the amendment mailed May 3, 2006 with this amendment. The assignee and the inventor of this application are resident in Great Britain, and Applicant's attorney prepared the amendment of May 3rd without the benefit of meeting with the inventor. Subsequently, Applicant's attorney was unexpectedly able to meet with the Technical Director of the assignee and obtain a better understanding of the invention. Applicant therefore is canceling the previously submitted claims and adding new claims as set forth above, which better define the invention. Applicant respectfully traverses the rejection of the claims and requests reconsideration.

Claim 9 requires first and second communicating devices at a subsea well complex on a sea floor. In the example of Figure 2, the first communicating device comprises SEM processor 2, which is a processor associated with a subsea well tree for controlling valves and chokes and receiving signals from sensors concerning the tree condition. The second communicating device comprises one or more sensors for sensing a variety of parameters and listed as virtual links. In Figure 3, the first communicating device comprises the SEM processor of well tree 1, while the second communicating device could either be the SEM processor of another tree or the virtual links 13. Claim 9 further requires a communications router coupled to the first and second communicating devices for multiplexing signals from the devices onto a communications link connected to a computer at a remote location, typically at a rig, platform or shore-based location.

Applicant submits that neither Tubel, Gardner or Laborde discloses a communications router coupled with said first and second communications devices of a subsea well complex on a sea floor. Tubel discloses a downhole production well control system that controls a plurality of

zones within a single well or within multiple wells. *See* the Tubel patent (Abstract, Summary of the Invention, and Claims). The Tubel system 22 includes a plurality of downhole sensors and control devices (as detailed in Figure 6) in communication with a network 410. *See id.* (Col. 20: ll. 9-15, Figure 9). A server or bus master 400 monitors the network traffic, performs various tasks, and communicates with a control system at the surface 24. The Tubel patent does not disclose controlling devices at a subsea well complex, rather discloses remotely controlling devices downhole within a well . Tubel does not mention multiplexing signals with the bus master 400 or any other device.

The Tubel patent fails to disclose a communications router coupled with first and second communicating devices. The Examiner alleged that the Tubel bus master 400 was such a router, but Tubel fails to disclose that bus master 400 performs any multiplexing functions. Applicant respectfully submits that it is well known in the electrical arts that multiplexing means to combine a plurality of input (i.e., 1) signals from the devices of the well tree, and 2) further signals associated with the operation of the well) to produce a single output signal or channel, with the signals being combined using time or frequency division. There is nothing in the functions performed by the Tubel bus master 400 that discloses or suggests such multiplexing.

Gardner deals with transmitting video up a wireline cable from a video recorder suspended in the well. Laborde deals with a communication link that extends into a well to various tools for performing functions in the well. Consequently, all three references deal with downhole communications of devices within a well. This application deals with communicating more than one signal from a subsea well complex on the sea floor via a single communication link to a remote location, typically at a rig, platform or shore-base.

Claim 10 depends from claim 9 and specifies that the first communicating device communicates with the router pursuant to a selected data protocol, and the second communicating device communicates with the router pursuant to different data protocol from the selected data protocol. This feature of the router is a significant advantage in that it allows a operator to utilize a variety of "virtual link" devices that are not restricted as to data protocol. This feature is not shown or suggested in the references.

Claim 11 requires that the first communicating device comprise a processor that provides signals to electrical devices for controlling valves of the subsea well complex. Tuber deals with signals to and from downhole devices within a well, and does not disclose a processor that controls valves of a subsea well complex on the sea floor.

Claim 12 requires that the processor communicate with the router with a selected data protocol, and the second communicating device communicate with the router free of any restrictions as to data protocol. This valuable feature is not suggested by the references.

Claim 13 defines the first communicating device to comprise a subsea electronics module of a first subsea tree, and the second communicating device to comprise a subsea electronics module of a second subsea tree. The references do not suggest any application to electronics modules of subsea trees.

Claim 14 claims a communications electronic module located at the subsea well complex, the router being located within a communications electronic module. Claim 14 also requires a plurality of subsea electronics modules at the subsea well complex, each associated with a separate subsea tree of the subsea well complex, and each containing a router that communicates with said first mentioned router. Figure 3 provides a example of this claim, with the router in the

communications electronic module being identified by the numeral 22, and the subsea electronics modules, along with their routers, being identified by the numeral 1.

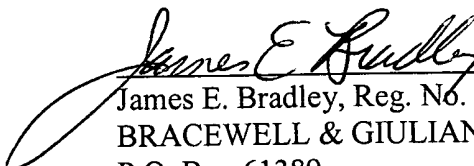
Claim 17 requires a router at a subsea well complex that receives signals from a processor and a communicating device, and multiplexes the signals onto a communications link leading to a computer. As discussed, the references do not disclose a router. Claim 18 requires that the communicating device communicate with the router at a different protocol and data rate than the processor.

Claim 21 requires a plurality of subsea trees, each having a processor, a communicating device that monitors a condition associated with the tree, and a communications router. It requires that the communicating device and the processor communicate with the router associated with the same tree. It requires that each router communicate with a computer at a remote surface location via a communication link. Claim 22 further requires a central router linked to each of the routers at each tree.

It is respectfully submitted that the claims are now in condition for allowance and favourable action is respectfully requested.

Respectfully submitted,

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